

# DOREL FETCU

## CURRICULUM VITAE

### PERSONAL

|                         |   |
|-------------------------|---|
| <b>Born</b>             | 20 May 1976, Bucharest, Romania   |
| <b>Citizenship</b>      | Romanian  |
| <b>Position</b>         | Professor   |
| <b>Affiliation</b>      | <ul style="list-style-type: none"><li>• Department of Mathematics and Informatics<br/>Gheorghe Asachi Technical University of Iași</li><li>• Doctoral School, Faculty of Mathematics<br/>Alexandru Ioan Cuza University of Iași</li></ul> |
| <b>Address (work)</b>   | Carol I Blvd. 11A, 700506 Iași, Romania   |
| <b>E-mail addresses</b> | dorel.fetcu@academic.tuiasi.ro; dorelfetcu@yahoo.com  |
| <b>Web page</b>         | <a href="http://math.etti.tuiasi.ro/dfetcu/">http://math.etti.tuiasi.ro/dfetcu/</a>   |

### EDUCATION

- **Habilitation (Abilitare)** – April 2017  
Simion Stoilow Institute of Mathematics  
of the Romanian Academy (IMAR), Bucharest
- **Ph.D. in Mathematics** – January 2005  
Alexandru Ioan Cuza University of Iași
- **M.Sc. in Mathematics** – July 2000  
Alexandru Ioan Cuza University of Iași
- **B.Sc. in Mathematics** – June 1998  
Alexandru Ioan Cuza University of Iași

### EMPLOYMENT

- **Gheorghe Asachi Technical University of Iași**  
Department of Mathematics and Informatics
  - **Professor** – 13 February 2017 – present
  - **Associate Professor** – 1 October 2012 – 12 February 2017
  - **Lecturer** – 1 March 2007 – 30 September 2012
  - **Assistant Professor** – 1 March 2003 – 28 February 2007
  - **Teaching Assistant** – 1 March 2001 – 28 February 2003

### POSTDOCTORAL &

### VISITING POSITIONS

- **Max-Planck-Institut für Mathematik (MPIM)**  
**Bonn, Germany**
  - **Visiting Researcher** – 1 March 2025 – 31 May 2025
- **Federal University of Bahia, Salvador, Brazil**
  - **Researcher (CNPq Fellow)** – 1 July 2013 – 30 April 2015
  - **Visiting Professor** – 1 November 2012 – 30 June 2013
- **Instituto Nacional de Matemática Pura e Aplicada (IMPA)**  
**Rio de Janeiro, Brazil**
  - **Postdoctoral Fellow** – 1 March 2010 – 29 February 2012

## RESEARCH GRANTS

- **Max-Planck-Gesellschaft, Germany**  
**Visiting Researcher Grant**  
1 March 2025 – 31 May 2025
- **Romanian National Authority for Scientific Research**  
**Grant for Young Research Teams**  
*Constant Mean Curvature and Biharmonic Submanifolds* (PI, €125,000.00)  
1 October 2015 – 30 September 2017
- **Bolsa Atração de Jovens Talentos (BJT–Nível A)**  
**Ciência sem fronteiras, CNPq, Brazil**  
1 July 2013 – 30 April 2015
- **Pós–Doutorado Sênior (PDS), FAPERJ, Brazil**  
1 March 2011 – 29 February 2012
- **Pós–Doutorado Júnior (PDJ), CNPq, Brazil**  
1 March 2010 – 28 February 2011

## TEACHING

- **Courses**
  - **Linear Algebra, Analytic Geometry, and Differential Geometry I & II**
  - **Mathematical Analysis I & II**
  - **Elementary Mathematics**
  - **Special Mathematics I & II**  
(Complex Analysis, ODEs, PDEs, Operational Calculus, Probability)  
*Gheorghe Asachi Technical University of Iași, Romania*
  - **Biharmonic Submanifolds in Riemannian Manifolds** (minicourse, 6 hours)  
Postgraduate Summer Program, Institute of Mathematics (January 2013)  
*Federal University of Bahia, Salvador, Brazil*

## RESEARCH

- **Fields of interest**
  - **Differential Geometry and Geometric Analysis**
    - Theory of submanifolds in Riemannian manifolds  
(constant mean curvature surfaces; biharmonic and biconservative submanifolds)
    - Harmonic maps and morphisms
- **Research papers**
  1. **The rigidity of biconservative surfaces in  $\text{Sol}_3$** 
    - Ann. Mat. Pura Appl., to appear.
  2. **Segre embedding and biharmonicity** (with **H. Bibi** and **C. Oniciuc**)
    - Tohoku Math. J., to appear.
  3. **Biconservative surfaces in  $\mathbb{S}^2 \times \mathbb{R}$  and  $\mathbb{H}^2 \times \mathbb{R}$** 
    - J. Math. Anal. Appl. 554(1), 2026, Paper No. 129922, 16 pp.
  4. **Simons type formulas for surfaces in  $\text{Sol}_3$  and applications**
    - Bull. Math. Sci. 13(3), 2023, Paper No. 2350007, 15 pp.

5. **Parallel mean curvature biconservative surfaces in complex space forms**  
(with **H. Bibi, B.-Y. Chen, and C. Oniciuc**)  
– Math. Nachr. 296(8), 2023, 3192–3221.
6. **Biharmonic and biconservative hypersurfaces in space forms** (with **C. Oniciuc**)  
– Differential Geometry and Global Analysis: In Honor of Tadashi Nagano, 65–90, Contemp. Math., 777, Amer. Math. Soc., Providence, RI, 2022.
7. **Bochner-Simons formulas and the rigidity of biharmonic submanifolds**  
(with **E. Loubeau and C. Oniciuc**)  
– J. Geom. Anal. 31(2), 2021, 1732–1755.
8. **Biharmonic tori in spheres** (with **E. Loubeau and C. Oniciuc**)  
– Differential Geom. Appl. 54(Part A), 2017, 208–225.
9. **Constant mean curvature surfaces in  $\mathbb{M}^2(c) \times \mathbb{R}$  and finite total curvature** (with **M. Batista and M. P. Cavalcante**)  
– J. Geom. Anal. 27(4), 2017, 3071–3084.
10. **On biconservative surfaces in 3-dimensional space forms** (with **S. Nistor and C. Oniciuc**)  
– Comm. Anal. Geom. 24(5), 2016, 1027–1045.
11. **Biharmonic surfaces with parallel mean curvature in complex space forms** (with **A. L. Pinheiro**)  
– Kyoto J. Math. 55(4), 2015, 837–855.
12. **A classification result for helix surfaces with parallel mean curvature in product spaces**  
– Ark. Mat. 53(2), 2015, 249–258.
13. **Surfaces with parallel mean curvature in Sasakian space forms** (with **H. Rosenberg**)  
– Math. Ann. 362(1-2), 2015, 501–528.
14. **CMC biconservative surfaces in  $\mathbb{S}^n \times \mathbb{R}$  and  $\mathbb{H}^n \times \mathbb{R}$**  (with **C. Oniciuc and A. L. Pinheiro**)  
– J. Math. Anal. Appl. 425(1), 2015, 588–609.
15. **Surfaces with parallel mean curvature in  $CP^n \times \mathbb{R}$  and  $CH^n \times \mathbb{R}$**  (with **H. Rosenberg**)  
– Trans. Amer. Math. Soc. 366(1), 2014, 75–94.
16. **On complete submanifolds with parallel mean curvature in product spaces**  
(with **H. Rosenberg**)  
– Rev. Mat. Iberoam. 29(4), 2013, 1283–1306.
17. **Biharmonic submanifolds with parallel mean curvature in  $\mathbb{S}^n \times \mathbb{R}$**   
(with **C. Oniciuc and H. Rosenberg**)  
– J. Geom. Anal. 23(4), 2013, 2158–2176.
18. **Surfaces with parallel mean curvature in  $\mathbb{S}^3 \times \mathbb{R}$  and  $\mathbb{H}^3 \times \mathbb{R}$**  (with **H. Rosenberg**)  
– Michigan Math. J. 61(4), 2012, 715–729.
19. **Surfaces with parallel mean curvature vector in complex space forms**  
– J. Differential Geom. 91(2), 2012, 215–232.
20. **Biharmonic integral  $C$ -parallel submanifolds in 7-dimensional Sasakian space forms** (with **C. Oniciuc**)  
– Tohoku Math. J. 64(2), 2012, 195–222.
21. **A note on surfaces with parallel mean curvature** (with **H. Rosenberg**)  
– C. R. Math. Acad. Sci. Paris 349(21–22), 2011, 1195–1197.
22. **A note on integral  $C$ -parallel submanifolds in  $\mathbb{S}^7(c)$**  (with **C. Oniciuc**)  
– Rev. Un. Mat. Argentina 52(1), 2011, 33–45.
23. **Stability properties for biharmonic maps** (with **A. Balmuş and C. Oniciuc**)  
– Geometry–Exploratory Workshop on Differential Geometry and its Applications, 1–19, Cluj Univ. Press, Cluj-Napoca, 2011.
24. **Biharmonic submanifolds of  $CP^n$**  (with **S. Montaldo, E. Loubeau, and C. Oniciuc**)  
– Math. Z. 266(3), 2010, 505–531.

25. **A note on biharmonic curves in Sasakian space forms**  
– Ann. Mat. Pura Appl. 189(4), 2010, 591–603.
26. **Biharmonic hypersurfaces in Sasakian space forms** (with C. Oniciuc)  
– Differential Geom. Appl. 27(6), 2009, 713–722.
27. **Generalized harmonic maps on normal almost contact manifolds**  
– Rocky Mountain J. Math. 39(5), 2009, 1497–1515.
28. **On the geometry of biharmonic submanifolds in Sasakian space forms** (with C. Oniciuc)  
– J. Geom. Symmetry Phys. 14, 2009, 21–34.
29. **Explicit formulas for biharmonic submanifolds in Sasakian space forms** (with C. Oniciuc)  
– Pacific J. Math. 240(1), 2009, 85–107.
30. **Biharmonic Legendre curves in Sasakian space forms**  
– J. Korean Math. Soc. 45(2), 2008, 393–404.
31. **Integral submanifolds in three-Sasakian manifolds whose mean curvature vector fields are eigenvectors of the Laplace operator**  
– Geometry, integrability and quantization, 210–223, Softex, Sofia, 2008.
32. **Explicit formulas for biharmonic submanifolds in non-Euclidean 3-spheres** (with C. Oniciuc)  
– Abh. Math. Sem. Univ. Hamburg 77, 2007, 179–190.
33. **Biharmonic curves in Cartan-Vranceanu  $(2n + 1)$ -dimensional spaces**  
– Bul. Acad. Sti. Rep. Moldova. Mat. 53(1), 2007, 59–65.
34. **Harmonic maps between complex Sasakian manifolds**  
– Rend. Sem. Mat. Univ. Polit. Torino 64(3), 2006, 319–329.
35. **A characterization of normal framed  $\varphi$ -manifolds**  
– An. Ştiinţ. Univ. Al. I. Cuza Iaşi. Mat. (N.S.) 52(1), 2006, 207–216.
36. **Quaternionic maps between a hyper-Kähler manifold and a 3-almost contact manifold**  
– Novi Sad J. Math. 36(1), 2006, 21–34.
37. **Some properties of nearly  $\mathcal{S}$ -manifolds**  
– Sci. Ann. Univ. Agric. Sci. Vet. Med. 49(2), 2006, 229–242.
38. **An adapted connection on a strict complex contact manifold**  
– Proceedings of the 5th Conference of Balkan Society of Geometers, 54–61, BSG Proceedings 13, Geometry Balkan Press, Bucharest, 2006.
39. **Biharmonic curves in the generalized Heisenberg group**  
– Beitrage Algebra Geom. 46(2), 2005, 513–521.
40. **Critical associated metrics on framed  $\varphi$ -manifolds**  
– Libertas Math. 25, 2005, 123–130.
41. **Harmonic and  $\varphi$ -pluriharmonic maps between  $\mathcal{C}$ -manifolds**  
– Italian J. Pure Appl. Math. 18, 2005, 235–250.
42. **Critical associated metrics on nearly  $\mathcal{S}$ -manifolds**  
– Bul. Inst. Politeh. Iaşi. Mat. Mec. Teor. Fiz. 51(55)(1–2), 2005, 1–10.
43. **A class of harmonic maps between 3-cosymplectic manifolds**  
– Sci. Ann. Univ. Agric. Sci. Vet. Med. 48(2), 2005, Proceedings of the 4th Annual Symposium on Mathematics Applied in Biology & Biophysics, 303–316.
44. **Some results on the hyper-framed manifolds**  
– Sci. Ann. Univ. Agric. Sci. Vet. Med. 47(2), 2004, 151–163.
45.  **$\varphi$ -Pseudo harmonic morphisms**  
– An. Ştiinţ. Univ. Al. I. Cuza Iaşi. Mat. (N.S.) 50(2), 2004, 327–346.
46. **Harmonic maps on framed  $\varphi$ -manifolds**  
– An. Ştiinţ. Univ. Al. I. Cuza Iaşi. Mat. (N.S.) 50(1), 2004, 199–217.

47. **Maps between almost Kähler manifolds and framed  $\varphi$ -manifolds**

– Balkan J. Geom. Appl. 9(2), 2004, 13–24.

48. **Harmonic maps between framed  $\varphi$ -manifolds**

– Sci. Ann. Univ. Agric. Sci. Vet. Med. 46(2), 2003, 129–146.

• **Habilitation Thesis**

– **Submanifolds with Parallel Mean Curvature and Biharmonic Submanifolds in Riemannian Manifolds**

– [www.researchgate.net](http://www.researchgate.net), DOI: 10.13140/RG.2.2.29610.11204.

• **Ph.D. Thesis**

– **Properties of Harmonic Mappings and Morphisms** (in Romanian)

– Differential Geometry – Dynamical Systems Monographs 5, Geometry Balkan Press, Bucharest, Romania, 2005, 97 pp.

– [www.mathem.pub.ro/dgds/mono/dgdsmono.htm](http://www.mathem.pub.ro/dgds/mono/dgdsmono.htm)

• **Textbooks**

– **Elements of Linear Algebra, Analytic Geometry, and Differential Geometry** (in Romanian) – Demiurg Publishing House, Iași, Romania, 2009, 340 pp.

– **Biharmonic Submanifolds in Riemannian Manifolds** (with A. L. Pinheiro)

(in Portuguese) – EDUFBA, Salvador, Brazil, 2018, 99 pp.

(in Romanian) – Demiurg Publishing House, Iași, Romania, 2016, 90 pp.

– **An Introduction to Linear Algebra, Analytic Geometry, and Differential Geometry. Syntheses and Problems** (with G. Crețu and G. Teodoru)

(in Romanian) – PIM Publishing House, Iași, Romania, 2024, 394 pp.

**CONFERENCES**

- The XXIVth International Conference on Geometry, Integrability and Quantization, 6–13 June 2024, Varna, Bulgaria. (talk)
- Differential Geometry Workshop, Al. I. Cuza University of Iași, 6 – 9 September 2023, Iași, Romania. (talk)
- Differential Geometry Day (DGD 2023), Istanbul Medeniyet University, 21 June 2023, Istanbul, Turkey. (talk)
- International Geometry Symposium, Gazi University, 9 – 10 February 2023, Ankara, Turkey. (talk)
- Geometric Analysis: Past, Present and Future (GAPPF), Season 2, Autumn 2022, Jeonbuk National University, Korea. (talk)  
<https://www.youtube.com/channel/UCyKgrzh2wJD-yrQs3itdMeg/playlists>
- The Ninth Congress of Romanian Mathematicians, 28 June – 3 July 2019, Galați, Romania. (talk)
- International Conference on Applied and Pure Mathematics, 2–5 November 2017, Iași, Romania. (talk)
- Geometry Day 2017, 19 September 2017, Iași, Romania. (talk)
- Conference on Harmonic Maps, 15–18 May 2017, Brest (Landeda), France. (talk)
- Differential Geometry and Its Applications, 11–15 July 2016, Brno, Czechia. (talk)
- The Eighteenth International Conference on Geometry, Integrability and Quantization, 3–8 June 2016, Varna, Bulgaria. (talk)
- The 1st Postgraduate Meeting in Mathematics, Federal University of Bahia, 21–23 October 2013, Salvador, Brazil. (talk)

- The Fourteenth International Conference on Geometry, Integrability and Quantization, 8–13 June 2012, Varna, Bulgaria. (talk)
- The 1st Workshop on Differential Geometry, 7–11 February 2011, Maceió, Brazil. (poster)
- The 16th School of Differential Geometry, 12–16 July 2010, São Paulo, Brazil. (poster)
- A Harmonic Map Fest in honour of Prof. John C. Wood on the occasion of his 60th birthday, 7–10 September 2009, Cagliari, Italy. (poster)
- The Tenth International Conference on Geometry, Integrability and Quantization, 6–11 June 2008, Varna, Bulgaria. (talk)
- National Conference on Pure and Applied Mathematics, 9–10 November 2007, Iași, Romania. (talk)
- Symposium on the Differential Geometry of Submanifolds, 2–7 July 2007, Valenciennes, France. (poster)
- The Ninth International Conference on Geometry, Integrability and Quantization, 8–13 June 2007, Varna, Bulgaria. (talk)
- International Workshop Geometry of vector distributions, differential equations and variational problems, 13–15 December 2006, Trieste, Italy. (poster)
- The 14th Conference on Applied and Industrial Mathematics (Satellite Conference of ICM 2006), 17–19 August 2006, Chișinău, Republic of Moldova. (talk)
- The 5th Annual Symposium on Mathematics Applied in Biology and Biophysics, 16–17 June 2006, Iași, Romania. (talk)
- The 5th Conference of Balkan Society of Geometers, 29 August–2 September 2005, Mangalia, Romania. (poster)
- The 4th Annual Symposium on Mathematics Applied in Biology and Biophysics, 27–28 May 2005, Iași, Romania. (talk)
- The 3rd International Colloquium Mathematics in Engineering and Numerical Physics, 7–9 October 2004, Bucharest, Romania. (poster)
- The Annual Symposium on Mathematics Applied in Biology and Biophysics, 28–29 May 2004, Iași, Romania. (talk)

## SEMINAR PRESENTATIONS

- *MPIM-Oberseminar*, Max-Planck-Institut für Mathematik, Bonn, Germany, May 2025.
- *Mathematics Seminar*, Institute of Mathematics, Federal University of Bahia, Salvador, Brazil, November 2012, December 2012, April 2015.
- *Geometry Seminar (SING)*, Alexandru Ioan Cuza University of Iași, Romania, March 2012.
- *Sextas Matematicas Seminar*, Federal University of Rio de Janeiro, Brazil, December 2011.
- *Geometry Seminar*, University of São Paulo, Brazil, June 2011.
- *Minimal and CMC Surfaces Seminar*, IMPA, Rio de Janeiro, Brazil, April 2010, October 2010.
- *Differential Geometry Seminar*, IMPA, Rio de Janeiro, Brazil, March 2010, December 2011.

## OTHER

- **Supervisor** of postdoctoral researchers at Gheorghe Asachi Technical University of Iași (Romanian National Authority for Scientific Research, CNCS-UEFISCDI)  
**Simona Nistor (Barna)** (September 2021 – August 2023)  
**Ana-Irina Nistor** (May 2013 – October 2015)

- **Reviewer**

*Mathematical Reviews*, American Mathematical Society (2010 – 2013);

*Aequationes Mathematicae*, *American Journal of Mathematics*, *Archiv der Mathematik*, *Bulletin of the Brazilian Mathematical Society*, *Differential Geometry and its Applications*, *Illinois Journal of Mathematics*, *Journal of Differential Equations*, *Journal of Geometry*, *Journal of Geometry and Physics*, *Journal of Geometric Mechanics*, *Journal of Mathematical Analysis and Applications*, *Journal of the Korean Mathematical Society*, *Mathematical Reports*, *Mathematische Nachrichten*, *Mediterranean Journal of Mathematics*, *Pacific Journal of Mathematics*, *Proceedings of the American Mathematical Society*, *Proceedings of the Royal Society of Edinburgh*, *Results in Mathematics*, *Transactions of the American Mathematical Society*, and other mathematical journals

## LANGUAGES

- **Romanian** Native
- **English** Fluent
- **Brazilian Portuguese** Intermediate